



**General Certificate of Education**

**Health and Social Care  
8626/8629**

**HC14**

**Mark Scheme**

*2007 examination - June series*

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# HC14

## Question 1

- (a)(i) Method percussion is performed by the GP using (one/two) fingers (1) against patients' body (1) and tapping the finger (1) with the other hand (1) while listening to the sound made (1) **4 marks**

Scientific principle: sound heard will be different – dull/hollow (1) if organ healthy or not/problem (1) **2 marks**

- (a)(ii) B.P. measurements involve: (hollow) sleeve/band (rubber) cuff (1) placed around patient's arm (1) inflated (1) to stop blood flow (in arteries) (1) pressure **slowly** released (1) till blood flow/beat heard (1) using stethoscope (1) this is systolic pressure (1) measured in mmHg (1) further deflated (1) until beat disappears/blood flows steadily (1) this is diastolic pressure (1) max 9 **9 marks**

- (b) Ultrasound – high frequency sound/short wavelength (1) gel applied (1) transducer (1) transmitted into Marcie's abdomen/womb (1) reflected by foetus/placenta (1) 'echoes' recorded (1) converted into images/numerical data (1) **5 marks**

## Question 2

- (a) Ref to: Overall more female cancer sufferers cf males (1) Allow cancer more common in females cf males at ages 40-49/50-59/60-69/80-89/ 4 of the five age groups (1) overall cancer numbers similar both sexes (1) Cancer more common in males cf females at ages 70-79/one of the five age groups (1) Incidence of cancer increases in both males and females up to 79 years of age (1) Decrease in number of cancer sufferers 80-89 years may be due to fewer adults living AW (1) Cancer numbers 'plateau' past 60 for females (1) continue to rise in males till 79 (1) Large fall in numbers of males sufferers post 80 due to deaths (1) Cancer twice as common AW in 50-59 cf 40-49 females (1) Cancer three +/- times as common AW in 60-69/70-79 year old females cf 40-49 year olds (1) max 8 Allow max 3 statements re highest/lowest ideas

**8 marks**

- (b)(i) Radiotherapy – uses ionising radiation AW /Xrays Not: radiowaves (1) high intensity (1) destroys cells/cancer/tissues (1) of **localised** cancers AW (1) can be given externally/internally (1) externally converging beam (1) internally implanted pellets (1) Multidirectional dosage max 5 **5 marks**

- (b)(ii) Any 2 of – loss of hair/fatigue/vomiting/healthy cell death/nausea loss of tissue elasticity/infertility/cancer/skin redness or burns max 2 **2 marks**

- (c) Ref to – treatment may affect quality of life (1) time a person may live (1) need to know/balance benefits/risks AW (1) may wish to refuse treatment (1) patient more likely to cooperate/empower/clients ideas if allowed choice (1) Ignore cost **5 marks**

### Question 3

- (a)(i) Ref to – Alex placed on ‘table’ (1) moved into a cylinder (containing the scanner) (1) which emits multiple beams (1) of X-rays (1) which pass into Alex’s body and are absorbed differentially (1) X-ray receivers (1) send information to a computer (1) which ‘builds’ an image of a body ‘slice’ (1) digitally (1) images can be processed into 2D or 3D structure of Alex’s body (1) max 9

**9 marks**

- (a)(ii) Advantage – good detail of images/clear/three dimensional/gives images inside bone e.g. brain/differentiates solids – fluids/measures/structures **1 mark**  
Disadvantage – claustrophobic/high cost/large machine cf X-ray machine /cancer risk **1 mark**

- (b) Ref to Advantages: better monitoring of Alex’s condition AW (1) using more sophisticated equipment (1) professional expertise (1) range of skilled workers (1) providing appropriate technical treatment (1) and responding quickly AW to changes in Alex’s condition (1) max 6

Disadvantages: loss of social contact with family AW (1) one of many patients ct only patient AW (1) risk of infection from other patients (1) may lack stimulation/become bored (1) loss of privacy (1) max 3  
Allow reverse points from home nursing perspective

**9 marks**

### Question 4

- (a)(i) Use of questionnaire/interviews  
Allow structured – unstructured interviews max 2 **2 marks**

- (a)(ii) Strengths – questionnaire – reach large numbers/quickly – early/economic **1 mark**  
Strengths – interviews – can ‘pursue’ answers for clarity/determine validity of response **1 mark**  
Weaknesses – questionnaire – low return rate/validity of answers **1 mark**  
interview – relatively slow/small number  
Ignore data analyses **1 mark**

- (b) aseptic techniques – germ free environment (1) created by sterilization (1) **2 marks**  
local anaesthesia – giving drugs (1) interrupt action of nerve impulses (1)  
prevent sensation of pain/numbness (1) in a limited body region (1) **4 marks**  
microsurgery – (surgery) where surgeon uses a microscope/magnification (1) to operate delicately – minute movements/small equipment (1)  
not easily accessible areas (1) **3 marks**

- c) Drugs by mouth – drug digested (1) absorbed (1) when not very rapid action/controlled release desired (1) **up to 3 marks**  
Injection – for very rapid effect (1) localised (1) if cannot swallow (1)  
and if destroyed by digestion (1) max 3 marks **Max 5 marks overall**

	AO1	AO2	AO3	AO4
1ai	4	2		
aii	6	3		
b		5		
2a			8	
bi	5			
bii				2
c				5
3ai	4	5		
aii				2
b		3	2	4
4ai				1
aii				2
aiii	3			
b 1			4	3
b 2			4	3